

BCT Meeting Agenda
August 26, 2003, 10:00 - 16:00
Tetra Tech - San Francisco Office
135 Main Street, Suite 1800

- 1000 New Navy Business (Pat Brooks)**
- New business
 - Next BCT meeting and review of upcoming meetings
- 1015 Action Item List Review (Pat Brooks)**
- Discuss status of developing open space criteria for future risk assessments
- 1030 Parcel B Update (Ryan Ahlersmeyer)**
- Discuss path forward to Risk Management Review (RMR) report
 - Discuss DTSC concerns regarding moving forward with RMR report
- 1115 Open Forum for Discussion of Five-Year Review Report**
- 1140 Open Forum for Discussion of Parcel E Groundwater Data Gaps Investigation Report**
- 1200 Lunch**
- 1300 Update on Landfill Gas Removal Action (Charles "Maz" Mazowiecki)**
- Update on maintenance activities
 - Discuss content of and schedule for removal action closeout report
 - Update on landfill gas monitoring work plan
- 1400 IR-02 Removal Action Work Plan Update (Ryan Ahlersmeyer)**
- Discuss work plan strategy and schedule of removal action
- 1445 Parcel D Soil Removal Action (Pat Brooks)**
- Present overview of removal action sites and overall project objectives
 - Discuss content and schedule of action memorandum and work plan
- 1530 Document Review Matrix (Pat Brooks)**
- Documents submitted and status of agency review
 - Upcoming document submittals
 - Work load discussion
- 1545 Review Action Items (Pat Brooks)**
- 1600 Adjourn**

Hunters Point Shipyard Meeting Attendance Sheet

Topic: BCT Meeting
Location: Tetra Tech, San Francisco Office
Date/Time: August 26, 2003 / 10:00 a.m.

Organization	Name	Phone Number	E-Mail Address	Present
Navy	Keith Forman	619.532.0913	FormanKS@efdswnavfac.navy.mil	
	Patrick Brooks	619.532.0930	BrooksGP@efdswnavfac.navy.mil	PB
	Martin Offenhauer	619.532.0931	OffenhauerMB@efdswnavfac.navy.mil	MO
	Charles Mazowiecki	619.532.0902	MazowieckiCR@efdswnavfac.navy.mil	✓
	Ryan Ahlersmeyer	619.532.0960	AhlersmeyerRN@efdswnavfac.navy.mil	RA
	Glenn Christensen	619.532.0924	ChristensenGW@efdswnavfac.navy.mil	GC
	Jose Payne	619.532.0962	PayneJE@efdswnavfac.navy.mil	
	Michael Pound	619.532.2546	PoundMJ@efdswnavfac.navy.mil	
U.S. EPA	Michael Work	415.972.3024	Work.Michael@epa.gov	mw
DTSC	Chein Kao	510.540.3822	ckao@dtsc.ca.gov	CK
	Eileen Hughes	510.540.3760	ehughes@dtsc.ca.gov	
RWQCB	Julie Menack	510.622.2401	jsm@rb2.swrcb.ca.gov	
	Laurent Meillier	510.622.2440	lm@rb2.swrcb.ca.gov	
City of SF Lennar/BVHP	Amy Brownell	415.252.3967	amy.brownell@sfdph.org	
	Gregg Olson	415.554.3262	golson@sfwater.org	
	Jesse Blout	415.554.6477	jesse.blout@sfgov.org	
	Bob Hocker	415.995.1770	robert.hocker@lennar.com	
	Dorinda Shipman	415.394.8713	dcshipman@treadwellrollo.com	
	Jaque Forrest	510.251.2888	jforrest@ch2m.com	✓
	Diane Sarmiento	510.251.2888	dsarmie1@ch2m.com	
Tetra Tech EM Inc. Navy contractor	Doug Davenport	415.222.8217	Doug.Davenport@ttemi.com	
	Doug Bielskis	415.222.8242	Doug.Bielskis@ttemi.com	DB
	Debbie Cheng	415.222.8215	Deborah.Cheng@ttemi.com	DC
	A. Chakrabarti	415.222.8351	Arnab.Chakrabarti@ttemi.com	AC
	Julia Vetromile	415.222-8225	Julia.Vetromile@ttemi.com	JV
ITSI Navy contractor	Arvind Acharya	925.946.3100	aacharya@itsi.com	✓
Shaw Group Navy contractor				
Foster Wheeler Navy contractor	Gerry Slattery	415.671.1990	gslattery@fwenc.com	
	Glenn Starr	619.234.8696	gstarr@fwenc.com	
Tech Law, Inc EPA Contractor	Karla Brasaemle	415.281.8730	kbrasaemle@techlawinc.com	KB
Arc Ecology	Lea Loizos	(b) (6)	(b) (6)	✓
Restoration Advisory Board	Barbara Bushnell	(b) (6)	(b) (6)	BB

HUNTERS POINT SHIPYARD BASE REALIGNMENT AND CLOSURE CLEANUP TEAM ACTION ITEMS

Action	Date Identified	Responsible Party	Date Due	Date Accomplished	Notes
Basewide: EPA and DTSC to discuss creation of open space criteria with their risk assessment specialists.	23-Jul-03	Michael Work (EPA) Chein Kao (DTSC)	TBD		
Parcel B: conduct a meeting to discuss agency comments on the construction summary report.	24-Jun-03	Ryan Ahlersmeyer (Navy) Michael Work (EPA) Chein Kao (DTSC) Julie Menack (RWQCB) Tetra Tech	19-Aug-03	19-Aug-03	
Parcel B: verify the trigger level for mercury as reported in the five-year review document.	22-Jul-03	Ryan Ahlersmeyer (Navy) Tetra Tech	TBD		To be revised, as appropriate, in draft final document
Parcel B: check EPA guidance regarding the necessity of summarizing ARARs from the 1997 ROD in the five-year review document.	22-Jul-03	Ryan Ahlersmeyer (Navy) Tetra Tech	TBD		To be addressed, as necessary, in draft final document
Parcel B: provide the Anna E. Waden library with a copy of the 1997 ROD.	22-Jul-03	Ryan Ahlersmeyer (Navy) Tetra Tech	1-Aug-03	1-Aug-03	Provided to replace missing copy.
Parcel E (nonstandard data gaps investigation): electronic mail BCT regarding monitoring strategy for temporary GMPs.	24-Jun-03	Charles Mazowiecki (Navy) Tetra Tech	22-Jul-03	22-Jul-03	Discussed at BCT meeting
Groundwater: conduct basewide groundwater monitoring plan storyboard meeting.	24-Jun-03	Pat Brooks (Navy) Michael Work (EPA) Chein Kao (DTSC) Julie Menack (RWQCB) Tetra Tech	3-Sep-03		Tentative date.

HUNTERS POINT SHIPYARD BASE REALIGNMENT AND CLOSURE CLEANUP TEAM ACTION ITEMS

Action	Date Identified	Responsible Party	Date Due	Date Accomplished	Notes
Groundwater: clarify in the final Parcel C groundwater summary report that criteria remain the same per the draft report, but that criteria were not agreed on by the regulatory agencies. The screening criteria will be reevaluated in the feasibility study. <i>gw mon, plan,</i>	22-Jul-03	Pat Brooks (Navy) Glenn Christensen (Navy) Tetra Tech	2-Sep-03		To be addressed in the final report.
Groundwater: contact Mr. Greg Bartow (SF PUC) regarding ambient groundwater data in San Francisco.	23-Jul-03	Julie Menack (RWQCB)	TBD	19-Aug-03	

Notes:

ARAR	Applicable or relevant and appropriate requirement	Navy	Department of the Navy
BCT	Base Realignment and Closure Cleanup Team	ROD	Record-of-decision
BRAC	Base Realignment and Closure	RWQCB	Regional Water Quality Control Board
City	City of San Francisco	SF PUC	San Francisco Public Utilities Commission
DTSC	Department of Toxic Substances Control	TBD	To be determined
EPA	Environmental Protection Agency	Tetra Tech	Tetra Tech EM Inc.
GMP	Gas monitoring probe		

**Recent Completed Review Periods
Document Review Matrix
Hunters Point Shipyard**

Item	Parcel	Document Name	Submittal Date	Expected Date for Comments	Notes	Agency Submittal of Comments			
						EPA	DTSC	RWQCB	City of SF
1	B	Draft Construction Summary Report	11/18/2002	4/15/2003	EPA requested extensions (original date was 1/3/2003); RTCs planned for November 2003 pending resolution of comments	5/8/2003	4/7/2003	4/4/2003	
2	E	Draft Final Landfill Fire Removal Action Closeout Report	2/4/2003	4/18/2003	Document to be finalized on 9/15/2003	3/31/2003	*	4/16/2003	
3	B	Draft Building 123 SVE Treatability Study Confirmation Study Su	3/14/2003	4/28/2003	Document finalized on 8/19/2003 with RTCs and replacement pages; supplemental information to be included in work plan for follow-on SVE TS	4/21/2003	5/28/2003	4/25/2003	
4	Basewide	Draft BRAC Business Plan	4/2/2003	5/19/2003	Final document planned for October 2003 pending resolution of agency comments	5/19/2003	5/27/2003	*	
5	C	Phase III GDGI Parcel C Report	3/19/2003	7/3/2003	EPA requested 30-day extension; RWQCB requested addt 7-day extension; revised Phase III report w/ RTCs planned for 9/1/2003	6/11/2003	7/9/2003	7/3/2003	
6	E	Landfill Gas Characterization Report	5/15/2003	6/30/2003	Final report with RTCs planned for 9/5/03	6/16/2003	7/1/2003 (Addt comments received 7/9/2003)	*	
7	E	Landfill Lateral Extent Report	5/15/2003	6/30/2003	Final report with RTCs planned for 9/18/03	6/20/2003	6/26/2003	6/30/2003	
8	E	Wetlands Delineation Report	5/15/2003	6/30/2003	Final report w/ RTCs submitted on 8/14/2003 following U.S. Army Corps of Engineers review	6/30/2003	6/26/2003	*	
9	B	Draft January to March 2003 Quarterly Groundwater Monitoring Report	5/30/2003	7/22/2003	Review period extended to 7/22/2003 (original date was 6/20/2003); report finalized with replacement pages and RTCs on 8/12/2003	6/23/2003	7/24/2003	7/28/2003	
10	Basewide	Draft Community Relations Plan	6/6/2003	7/21/2003	Review period extended to 8/12/2003 to accommodate community members; draft final document with RTCs planned for 10/2/2003 pending agency comments	7/17/2003	*	*	
11	D	Parcel D Waste Consolidation Summary Report	6/6/2003	7/21/2003	RTCs planned for 8/22/2003 and final document planned for 10/22/2003 (following agency review of RTCs)	7/24/2003	*	*	
12	C	Cost and Performance Summary for Ferox Injection Technology Demonstration at Building 272	7/11/2003	n/a	For information purposes only	n/a	n/a	n/a	n/a

Notes:

* - comments deferred to other agency

n/a - not applicable

TBD - to be determined

**Ongoing Review Periods
Document Review Matrix
Hunters Point Shipyard**

Item	Parcel	Document Name	Submittal Date	Expected Date for Comments	Notes	Agency Submittal of Comments			
						EPA	DTSC	RWQCB	City of SF
1	E	Phase III GDGI Parcel E Report	5/21/2003	8/8/2003	RWQCB requested 31-day extension (original date was 7/7/2003); revised report w/ RTCs planned for 9/15/03 pending receipt of agency comments	7/28/2003	8/8/2003 (gen'l comments only)	8/11/2003	
2	B	Draft Five-Year Review Document	7/8/2003	8/22/2003	Draft final documents with RTCs planned for 9/22/2003 pending receipt of agency comments	8/18/2003	8/22/2003		
3	B/C	Draft Workplan for Ferox Injection Treatability Study at Buildings 123 and 272	7/11/2003	8/25/2003	Final document with RTCs planned for 9/26/2003 pending receipt of agency comments				
4	E	Landfill Liquefaction Potential Report	8/1/2003	9/15/2003	Final document with RTCs planned for 10/30/2003 pending receipt of agency comments				
5	B/C/D/E	Request for Drinking Water Determination	8/11/2003	9/25/2003	For RWQCB review	n/a	n/a		n/a
6	F	Draft Workplan for Feasibility Study Data Gaps Investigation	8/21/2003	9/8/2003	Expedited review requested to accommodate field work schedule; RTCs planned for 9/22/2003 pending receipt of agency comments				
7	B	Draft April to June 2003 Quarterly Groundwater Monitoring Report	8/22/2003	9/12/2003	Final document with RTCs planned for 10/3/2003 pending receipt of agency comments				

Notes:

- * - comments deferred to other agency
- n/a - not applicable
- TBD - to be determined

**Upcoming Review Periods
Document Review Matrix
Hunters Point Shipyard**

Item	Parcel	Document Name	Approximate Submittal Date	Expected Date for Comments	Notes
1	B	Request for Identification of Applicable or Relevant and Appropriate Requirements (for proposed ROD amendment)	9/5/2003	30 days from submittal date	For DTSC review/response; tentative submittal date
2	B/C/D/E	Request for Concurrence on Proposed Criteria and Process for Evaluating Petroleum Hydrocarbons in Soil	9/12/2003	45 days from submittal date	For RWQCB review/response; tentative submittal date
3	E	Workplan for Phyto-Groundwater Extraction Treatability Study Work Plan	9/12/2003	45 days from submittal date	Tentative submittal date
4	C	Workplan for Sequential Anaerobic/Aerobic Treatability Study at Building 134	9/12/2003	45 days from submittal date	Tentative submittal date
5	E	Workplan for Parcel E IR-02 Removal Action	9/12/2003	45 days from submittal date	Tentative submittal date
6	B	Workplan for follow-on SVE Treatability Study	9/12/2003	45 days from submittal date	Tentative submittal date
7	E	Draft Landfill Gas Removal Action Closeout Report	9/12/2003	45 days from submittal date	Tentative submittal date
8	E	Draft Shoreline Characterization Technical Memorandum	9/26/2003	45 days from submittal date	Tentative submittal date
9	B	Draft Shoreline Data Gaps Technical Memorandum	10/3/2003	45 days from submittal date	Tentative submittal date
10	D	Action Memorandum for Time-Critical Removal Action	10/15/2003	30 days from submittal date	Tentative submittal date
11	D	Workplan for Time-Critical Removal Action	10/15/2003	45 days from submittal date	Tentative submittal date
12	D	Risk management review checklists	10/17/2003	14days from submittal date	Tentative submittal date
13	B/C/D/E	Draft Groundwater Monitoring Plan	10/22/2003	45 days from submittal date	Tentative submittal date
14	F	Field Summary Report for Supplemental Field Work	10/31/2003	45 days from submittal date	Tentative submittal date
15	Basewide	Draft Final Historical Radiological Assessment, Volume II	11/4/2003	30 days from submittal date	Tentative submittal date
16	B	Draft July to September 2003 Quarterly Groundwater Monitoring Report	11/14/2003	45 days from submittal date	Tentative submittal date
17	E	Interim Data Analysis Document for Standard Data Gaps Investigation	11/14/2003	45 days from submittal date	Tentative submittal date
18	A	Draft Final Finding of Suitability to Transfer	11/18/2003	7 days from submittal date	Tentative submittal date

Notes:

- * - comments deferred to other agency
- n/a - not applicable
- TBD - to be determined



Parcel B Update

BCT Meeting Hunters Point Shipyard

August 26, 2003

1



Overview

- Summary of past concerns
- Discussions and results from 19 August meeting
- Issues to address prior to ROD amendment

2



Summary of Past Concerns

- Parcel B ROD Data Gaps
 - Bay Mud Aquitard, A- and B-Aquifers (completed)
 - Off site migration of groundwater contaminants at IR-07/18 (completed)
 - Storm Drain Infiltration Study (completed)
 - TPH impact on groundwater quality (completed)
- IR-07/18 Subsurface Characterization (completed)
- IR-07/26 Shoreline Characterization (field work completed)
- SVE Treatability Study at Building 123 (Phase I and II completed)
- Cumulative Risk and Metals (dual-tracking EPA/DTSC under discussion)

3

Past Concerns – ROD Data Gaps

- Bay Mud Aquitard
 - Final Bay Mud Aquitard Tech Memo submitted on 2/19/01
 - With the exception of IR-18, hydraulic connection between A-and B-aquifers not present in Parcel B due to presence of Bay Mud Aquitard
 - RAMP network of wells adequate to characterize Parcel B
- Migration of Groundwater Contaminants Off Site at IR-07/18
 - Wells sampled at IR-07 (IR07MW28A) and IR-18 (IR18MW21) as part of the RAMP demonstrated no off-site migration
 - On-going monitoring occurring under RAMP

4

Past Concerns – ROD Data Gaps

- Storm Drain Infiltration Study
 - Final version of SDIS submitted on 2/28/01, including cross-sections requested by the EPA
 - Monitoring wells sampled in Basin 2 (IR07MW20A1, IR07MW20A2, IR07MWP-1, IR07MWP-2, IR07MWS-2) and Basin 4 (IR25MW11A, IR25MW16A, IR25MW45A, IR46MW41A, PA24MW03A) as part of the RAMP.
- TPH Impact on Groundwater Quality
 - Parcel B CAP approved by RWQCB on 6/13/01
 - CAP addendum in process addressing nuisance issues
 - On-going monitoring in Parcel B under the RAMP (e.g. UT03MW11A, IR18MW21A, IR26MW41A, IR07MW19A).

5

Past Concerns

- IR-07/18 Subsurface Characterization
 - Final document incorporating EPA comments submitted 7/19/03
 - Subsurface adequately characterized by previous excavations and geophysical survey
 - Any additional characterization will be part of the remedial design per the amended ROD
- IR-07/26 Shoreline Characterization
 - Shoreline field investigation complete. Navy will submit tech memo on 10/3/03 to BCT
 - Navy assessing shoreline data and will evaluate remedial alternatives for shoreline areas to protect ecologic receptors in the San Francisco Bay

6

Past Concerns

- SVE Treatability Study at Building 123
 - Plans to test SVE at additional areas at IR-10
 - Phase III work plan in preparation
- Cumulative Risk and Metals
 - Navy to address in "TM in Support of the ROD Amendment"
 - Dual-tracking (EPA/DTSC toxicity values) under discussion

7

19 August CSR Meeting

- Excavation Delineation and Data Concerns
 - Horizontal and vertical sample spacing - *sampling rules less important than data adequacy for risk assessment*
 - Summarized delineation issues in a table that will help identify risk assessment problem areas - *to be provided*
 - Potential for contamination based on unbounded 10' bottom composite samples - *still under discussion*
 - Selection of chemicals of potential concern - *discussed differences between current RDA goals versus screening against ESD 2000 goals. Exploratory Excavations results were reviewed during RD preparation, but will be screened against ESD 2000 goals.*

8

Technical Issues Needing Resolution

- Waste profile and soil screening samples
 - Errors to be corrected in appendix table
 - Agreed not to post locations on figures because sample coordinates not surveyed
- PAH detection limits
 - Discussed previous agreement to analyze for all 17 PAHs
 - Implications for risk assessment
- Correct TPH screening level to read "Total TPH 3,500 mg/kg"
- Screen results from exploratory excavations EE-01 and EE-03 against ESD 2000 goals
- Use of chemical data from backfill material - deferred discussion

9

Next Steps for the CSR

- Discuss whether to hold another meeting after responses to comments are ready, but before formally submitted
- Revise the CSR to address TPH – screening criteria changed over time; TPH areas not co-located with CERCLA contaminants to be addressed in the CAP

10

Next Steps for the CSR (cont'd)

- Revise the CSR to address TPH – screening criteria changed over time; areas beyond CERCLA cleanup to be addressed in the CAP
- Compile a table listing areas with delineation issues to be used during risk assessment discussions
- Prepare graphics/tables for CERCLA sites not in CSR; provide agencies with preview.

11

Risk Assessment Concerns

- Representation of "residual contamination"
- Potential use of removed or perimeter sample data at over excavated areas and dropped COPCs
- Handling ND data - Use of $\frac{1}{2}$ detection limit; further discussion where no detects at all
- Use of HPALs for inorganics in areas without sample data
- Proposal for open space exposure criteria

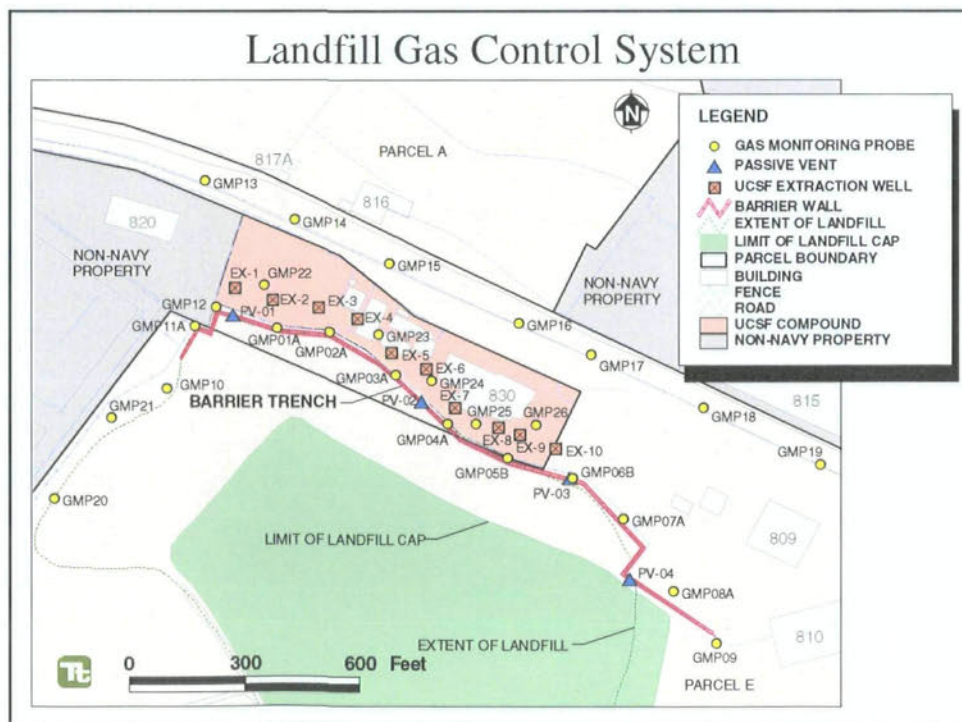
12

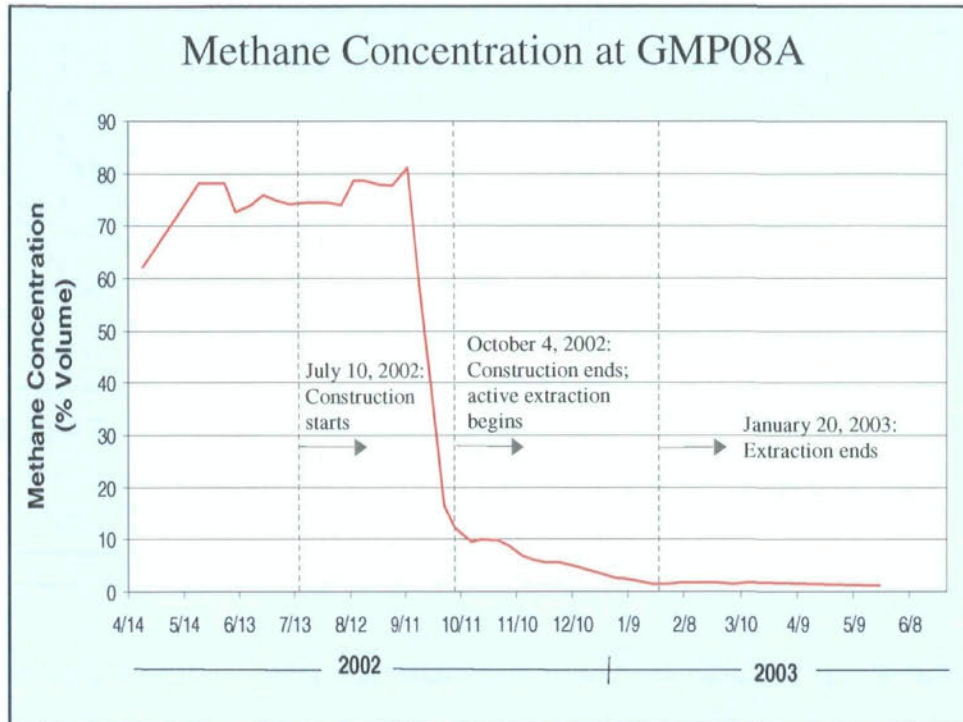
Path forward to ROD Amendment

1. Address shoreline data at IR-07 and IR-26
2. VOCs at IR-10 (SVE expansion, ZVI, vapor intrusion)
3. Groundwater monitoring issues (e.g. well replacement at IR-07)
4. Ambient metals evaluation protocol
5. Develop model for IR-07 and IR-18
6. Develop risk assessment methodology

13

August 26, 2003





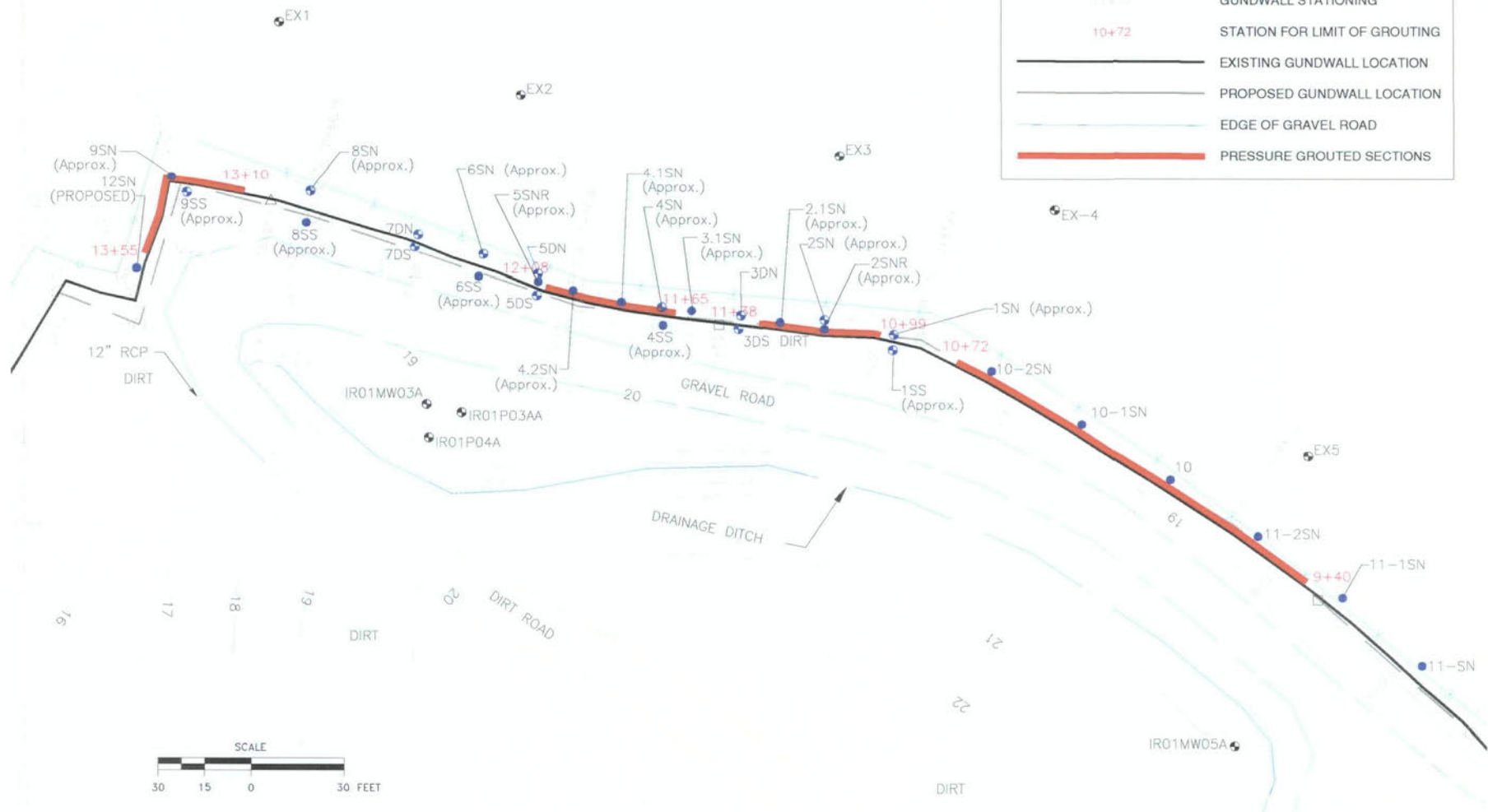
Landfill Gas Control System Problem Areas: Western Portion of Wall

- Methane detected at some temporary probes
- Inspected, rehydrated and pressure-grouted behind barrier wall at trouble spots with bentonite/cement slurry; partially effective, but further investigation is still necessary
- Present gas control system can prevent migration by extracting at low flow (5 cfm) from either PV-01 or PV-02

Temporary Probe Locations

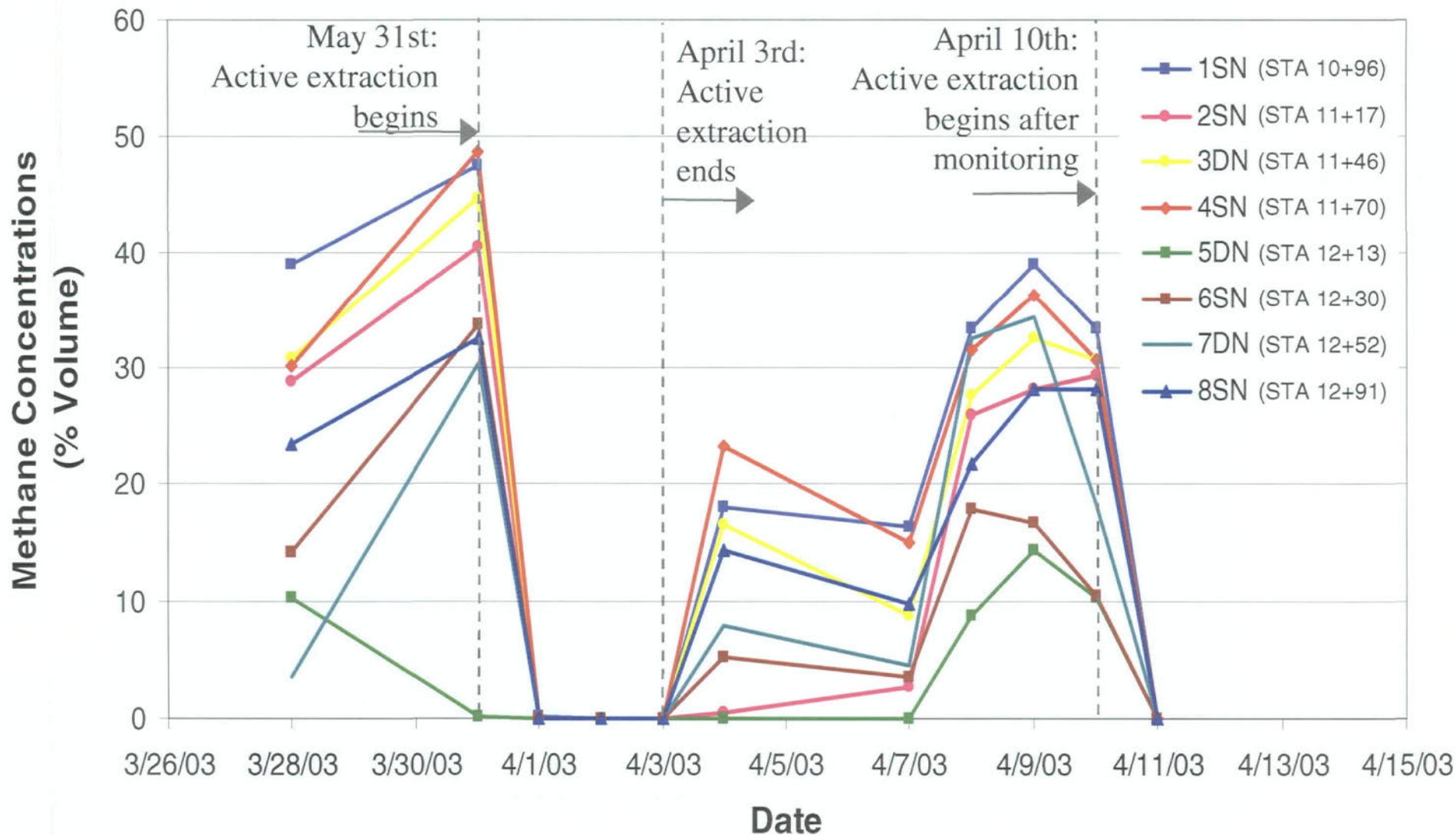
LEGEND:

17	CONTOUR LINE
	CHAIN LINK FENCE
	SURVEY DATA POINT
IR01MW12A	WELL LOCATION
2SN	#2, SHALLOW, NORTH
△	BARRIER TRENCH VENT
□	BARRIER TRENCH RISER
11+55	GUNDWALL STATIONING
10+72	STATION FOR LIMIT OF GROUTING
	EXISTING GUNDWALL LOCATION
	PROPOSED GUNDWALL LOCATION
	EDGE OF GRAVEL ROAD
	PRESSURE GROUTED SECTIONS



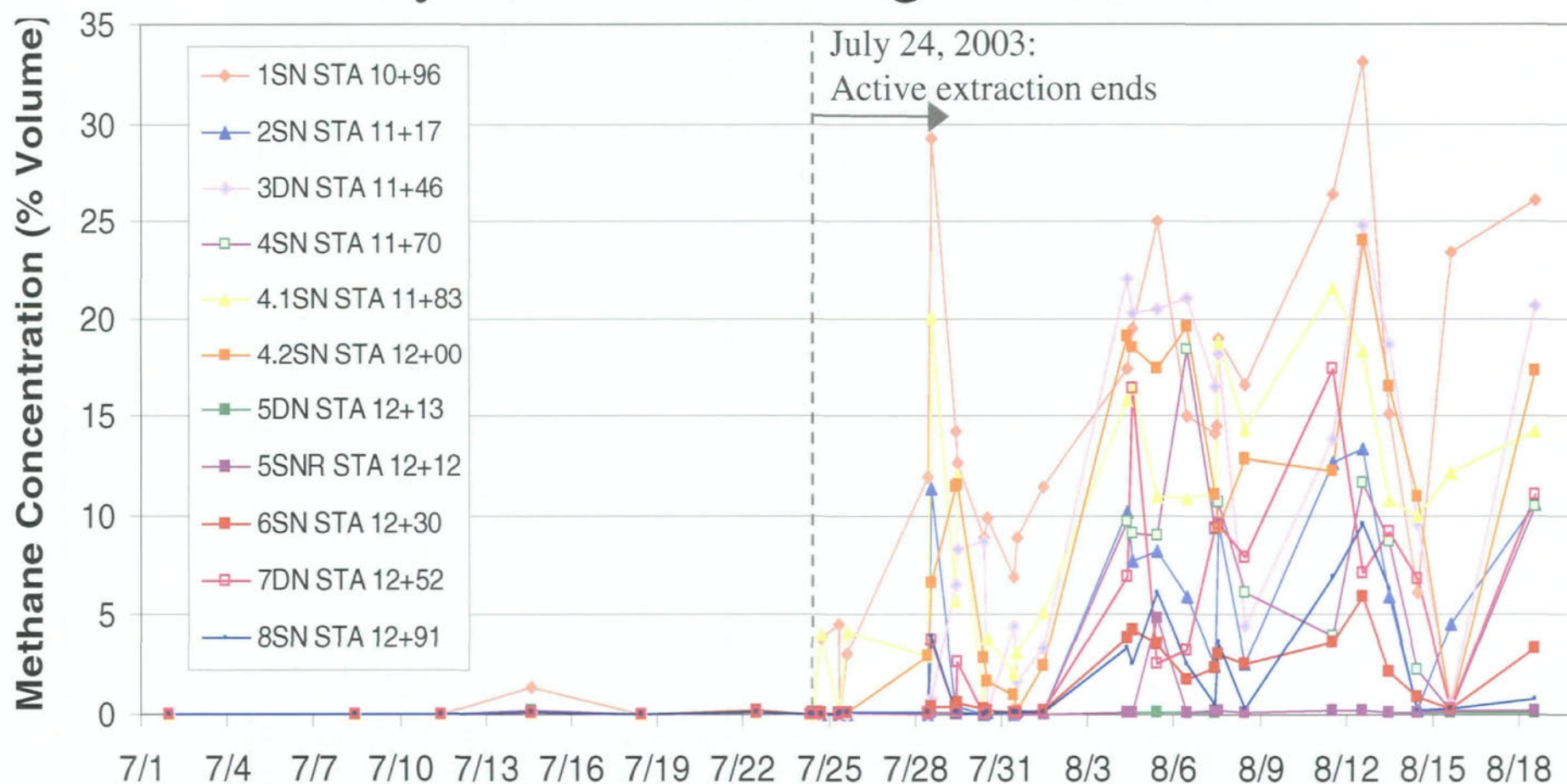
Methane At Grout Sections

March 26, 2003 To April 15, 2003



Methane At Grout Sections

July 1, 2003 To August 18, 2003



Grouting activities were finished on June 30, 2003.

Active gas extraction occurred from Passive Vent #1 from June 30, 2003 until July 24, 2003 and then again on from 1100 until 1600 on August 15, 2003.

Status of Landfill Gas Control System Problem Areas

Possible causes for methane presence beyond barrier:

- ☐ Methane migrating around western end of barrier
- ☐ Methane migrating through soil beneath barrier
- ☐ Restriction in venting system
- ☐ Methane migrating through bentonite above barrier
- ☐ Local source of methane within UCSF compound
- ☐ Methane migrating through a breach in barrier

Investigating Causes of Problem Areas

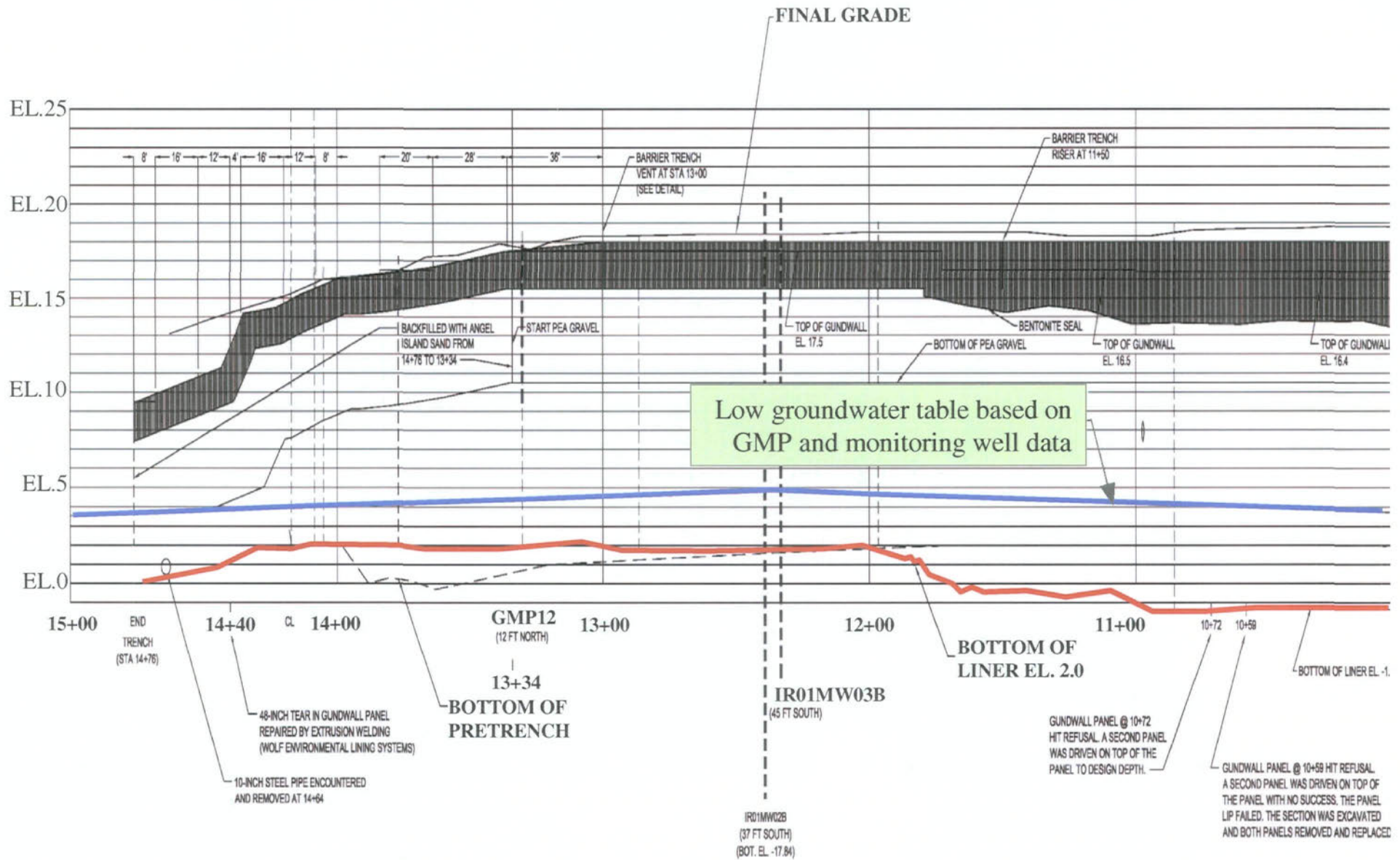
☒ Migration around western barrier wall unlikely because:

- Methane levels at GMP10 and GMP11A have remained at zero since barrier was installed
- Less waste in this area than along northern portion of wall

☒ Migration under barrier wall unlikely because:

- Groundwater level measured on August 20th at deep temporary probes in trench was at least 17 inches above bottom of wall

Historic Groundwater Low Along Barrier Wall



Investigating Causes of Problem Areas (continued)

☒ Restriction in venting system unlikely because:

- Flow testing indicates there is no blockage of flow in passive vent and piping systems; less than 1 inch of water vacuum at PV-01 to create 20 cfm through system
- Extraction at 5 cfm is sufficient to control methane; thus, venting system capacity is sufficient to vent generated methane without significant pressure buildup
- Methane is continuously observed at filter outlets at differential pressures too low for the instruments currently used, indicating little restriction in the venting system

Investigating Causes of Problem Areas (continued)

☒ Restriction in venting system unlikely because (continued):

- Pressure loss through carbon treatment system is about 3 inches of water at 5 cfm
- Additional testing will be performed on treatment systems with more sensitive instrumentation to determine pressure losses at other flows and the minimum extraction rate required to achieve equilibrium with landfill gas production

Investigating Causes of Problem Areas (continued)

☑ Migration through bentonite above barrier wall is possible:

- Preliminary testing showed bentonite seal was not fully hydrated; entire length of wall was subsequently rehydrated using injected water
- Further investigation will be performed to determine effectiveness of rehydration

Investigating Causes of Problem Areas (continued)

☑ Local source of methane within UCSF compound unlikely because:

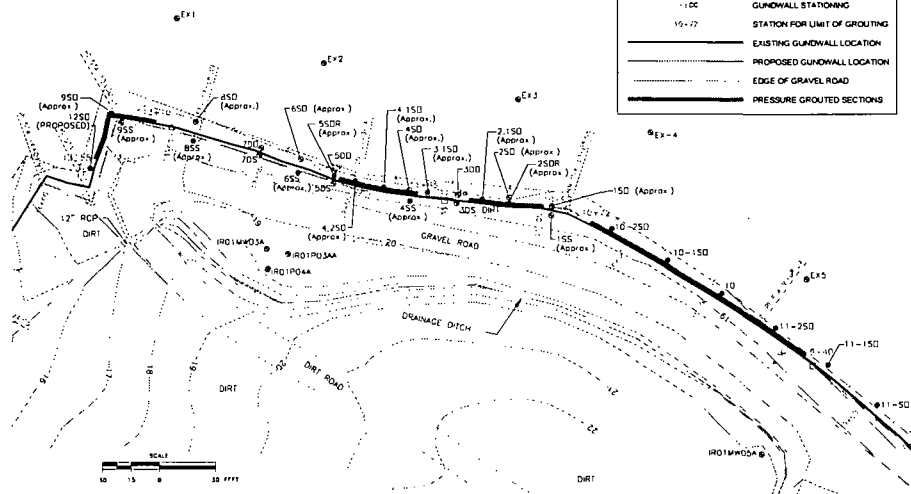
- No rebound of methane in any UCSF GMPs or extraction wells
- Historical aerial photographs show UCSF area was built prior to industrial landfill
- During installation of gas control system, trench wall on UCSF side was cleared of waste

☒ Migration through breach in barrier wall is possible:

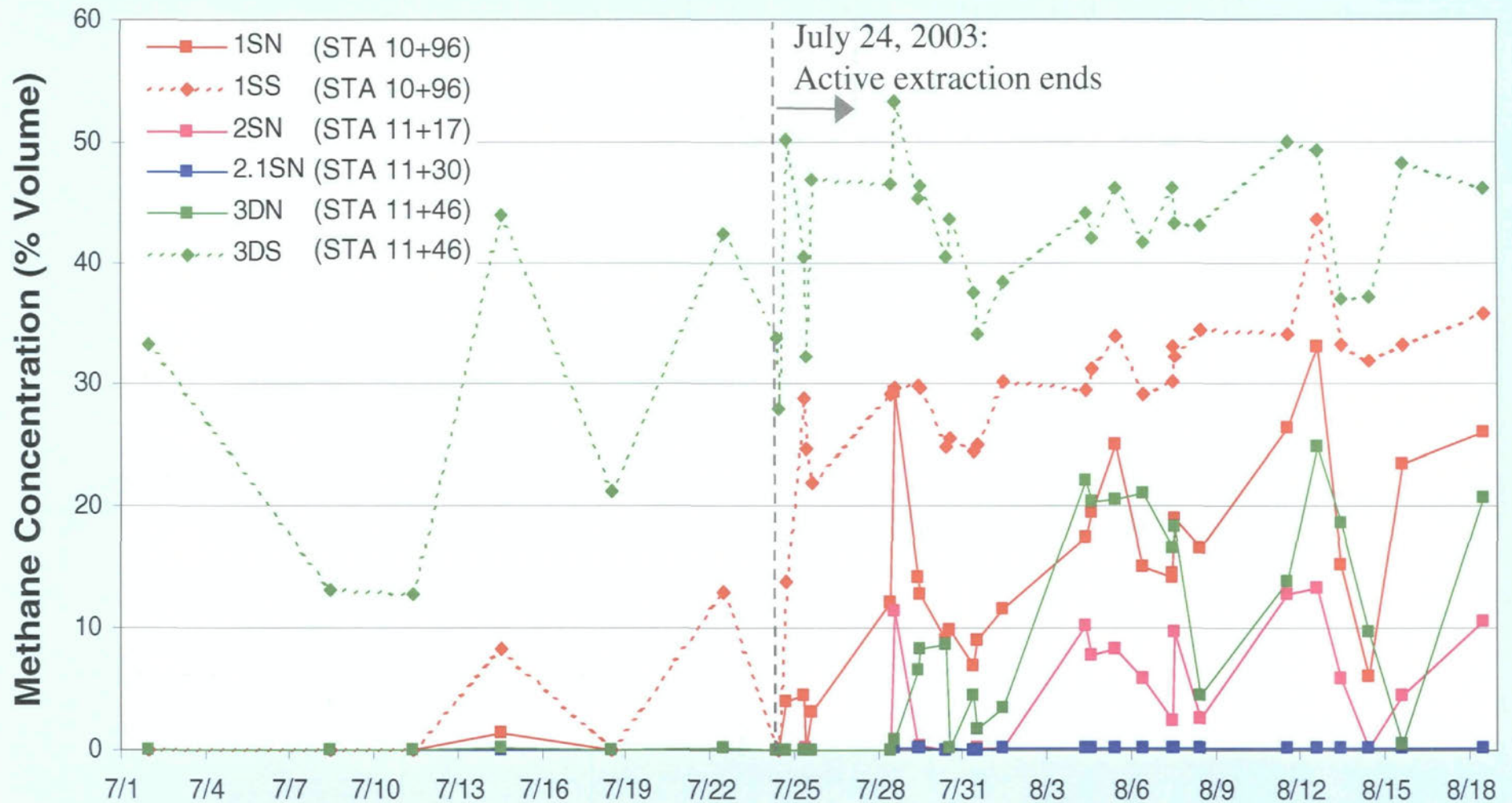
- 24-hour testing using methane as indicator gas prior to bentonite rehydration indicated a few specific locations where methane appeared to be migrating through the wall

LEGEND

..... 17	CONTOUR LINE
.....	CHAIN LINK FENCE
.....	SURVEY DATA POINT
ROW#112A ●	WELL LOCATION
250 ●	#2, SHALLOW, NORTH
△	BARRIER TRENCH VENT
□	BARRIER TRENCH RISER
- 100	GUNDWALL STATIONING
10+27	STATION FOR LIMIT OF GROUTING
=====	EXISTING GUNDWALL LOCATION
=====	PROPOSED GUNDWALL LOCATION
=====	EDGE OF GRAVEL ROAD
=====	PRESSURE GROUTED SECTIONS



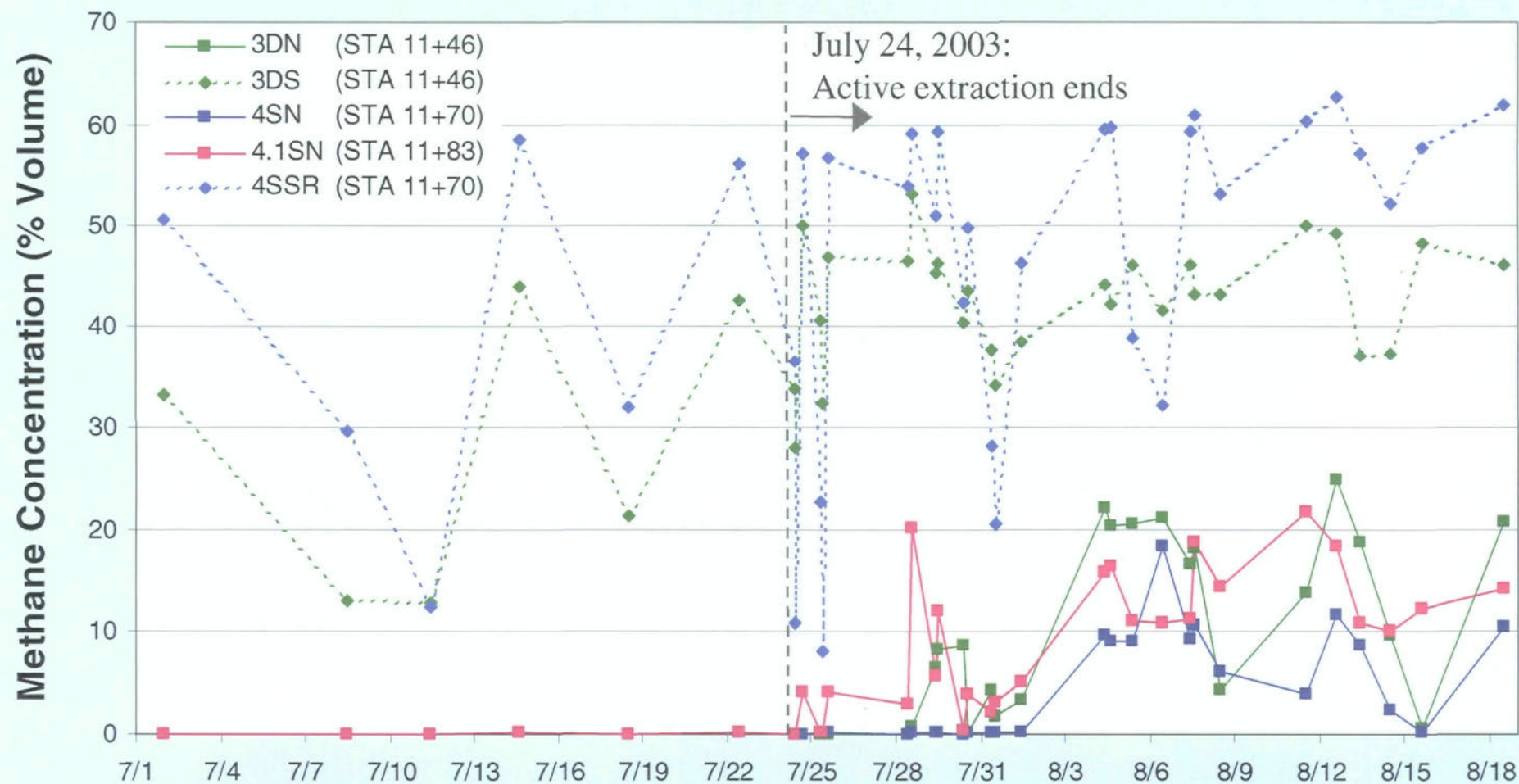
Methane at Grout Section Station 10+99 To 11+38



Grouting activities were finished on June 30, 2003.

Active gas extraction occurred from Passive Vent #1 from June 30, 2003 until July 24, 2003 and then again on August 15, 2003.

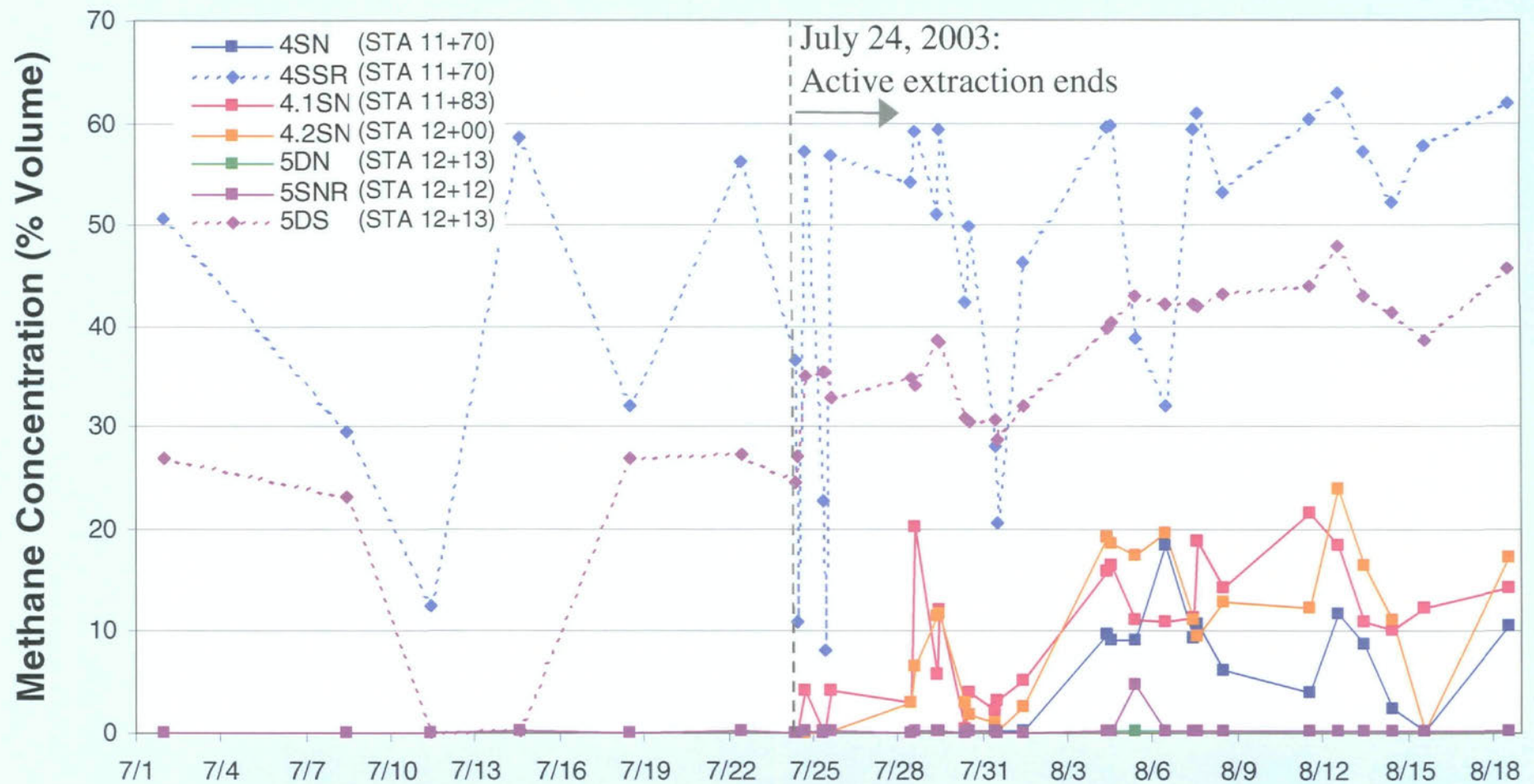
Methane at Grout Section Station 11+38 To 12+00



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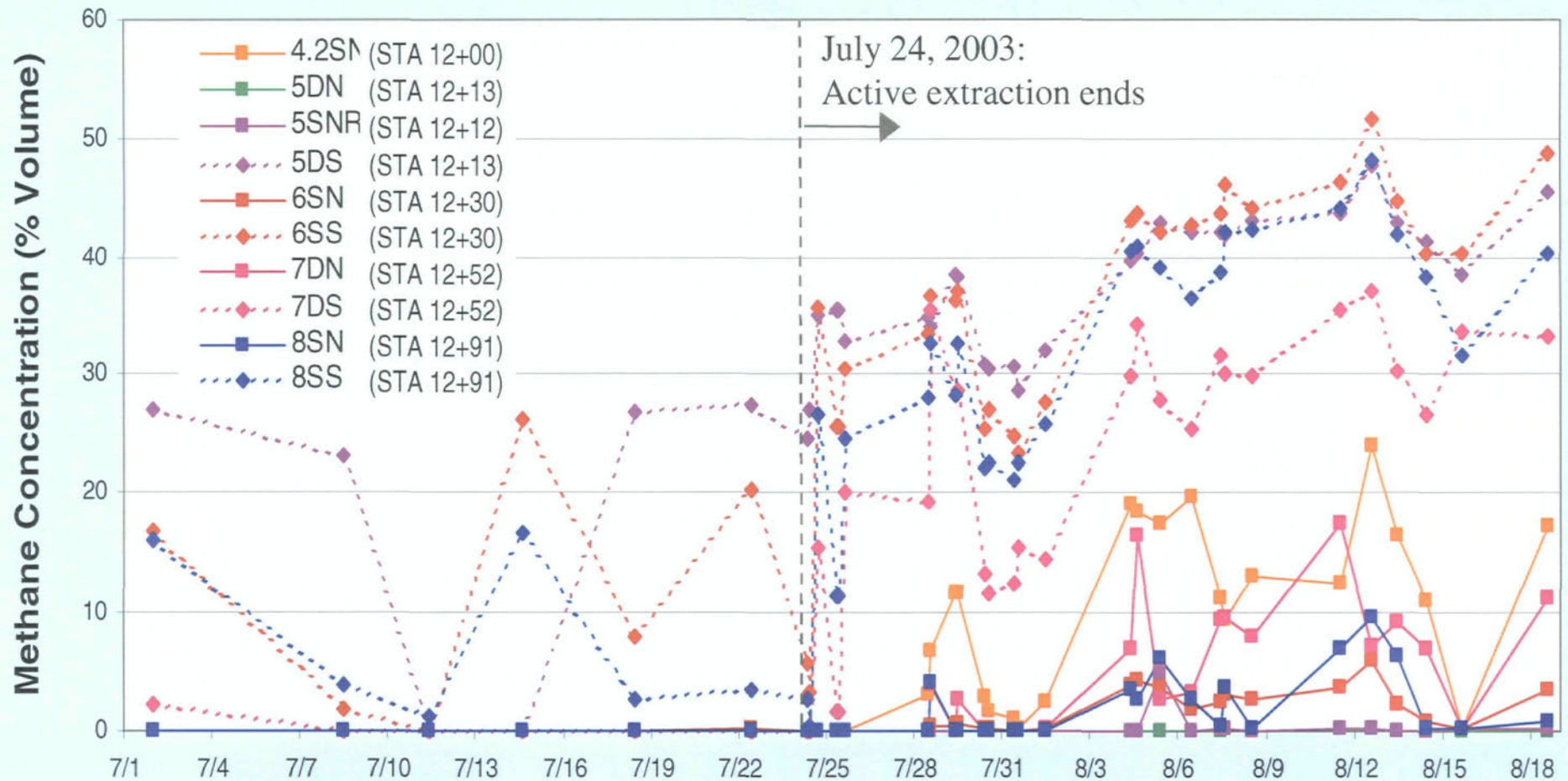
Methane at Grout Section Station 11+70 To 12+13



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Active gas extraction occurred from Passive Vent #1 from June 30, 2003 until July 24, 2003 and then again on August 15, 2003.

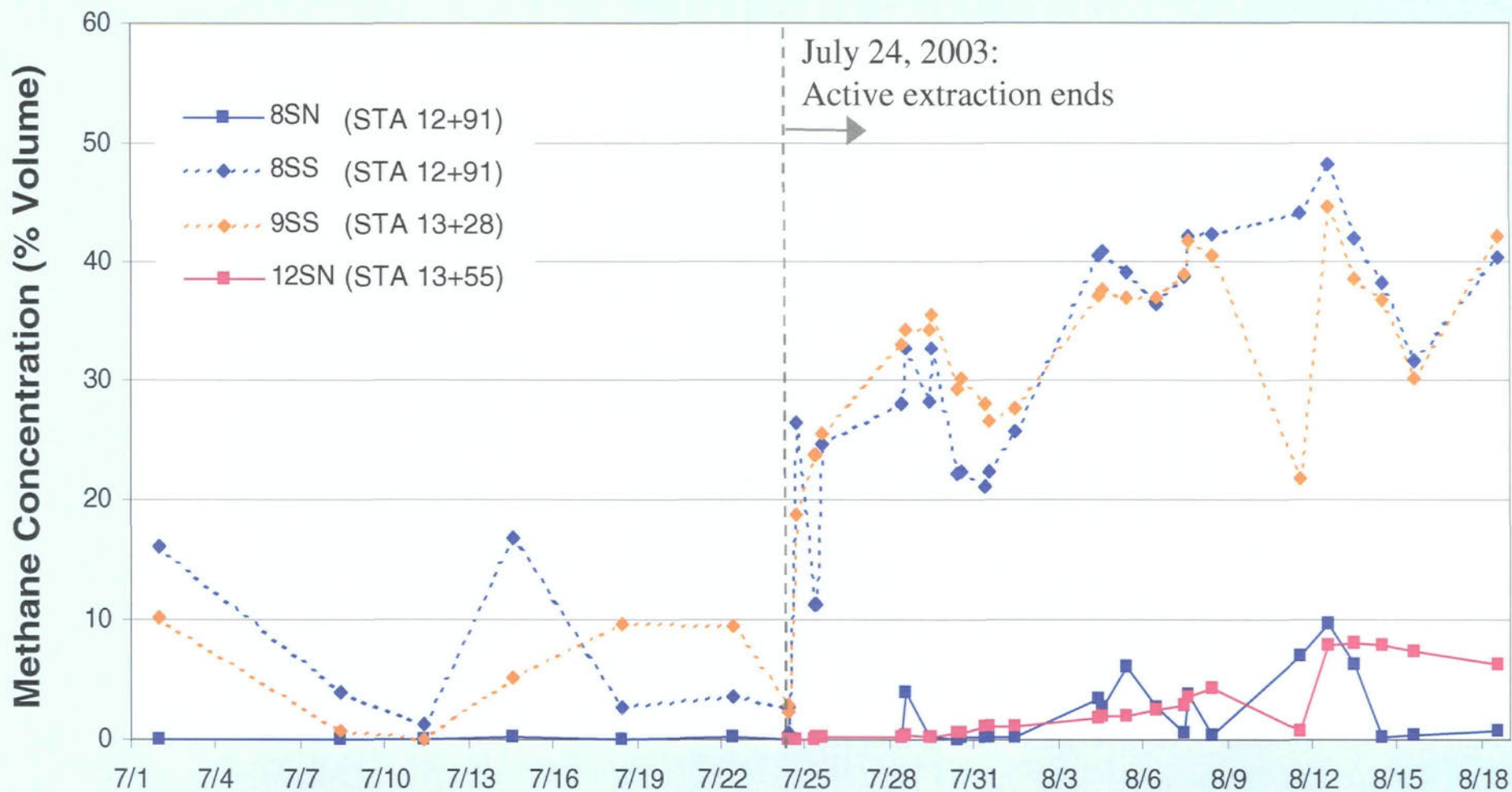
Methane at Grout Section Station 12+00 To 12+91



Grouting activities were finished on June 30, 2003.

Active gas extraction occurred from Passive Vent #1 from June 30, 2003 until July 24, 2003 and then again on August 15, 2003.

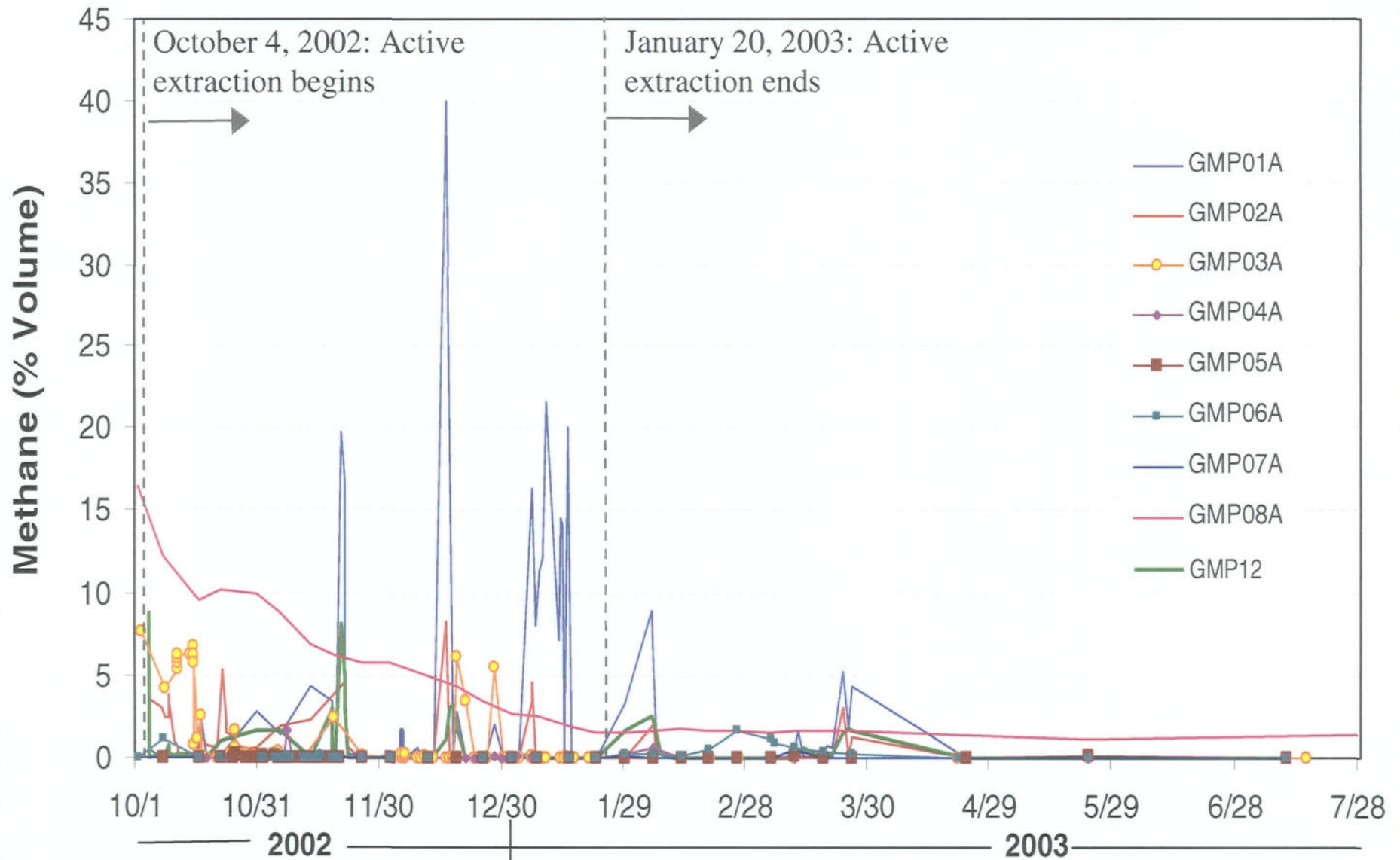
Methane at Grout Section Station 12+91 To 13+40



Grouting activities were finished on June 30, 2003.

Active gas extraction occurred from Passive Vent #1 from June 30, 2003 until July 24, 2003 and then again on August 15, 2003.

Methane Monitoring at Fence Line GMPs



Next Steps

- Test grouting procedure and review effectiveness
- Review grout mix design and installation method
- Take appropriate corrective action, probably additional grouting and rehydration
- Perform tracer gas testing to determine effectiveness of corrective action

Grout/Bentonite Study

- Excavate small area to determine if voids in grout
- Develop additional QC procedures to ensure complete grouting based upon results of investigation
- During excavation for grout, determine effectiveness of bentonite hydration
- Perform additional soil/gas testing in bentonite to determine effectiveness

Tracer Gas Study

- Perform tracer gas test to determine exact problem area if grout study inconclusive
- Tracer gas must be available in large quantities and be detectable by field instruments
- Tracer gases under consideration:
 - ✓ Helium (Vapor Density 0.138)
 - ✓ Methane (Vapor Density 0.55)
 - ✓ Sulfur Hexafluoride (Vapor Density 5.11)
 - ✓ Neon (Vapor Density 0.7)
 - ✓ Argon (Vapor Density 1.38)

Landfill Gas Time-Critical Removal Action Closeout Report

- Draft report will be submitted to the BCT in September
- Draft report will include the following topics:
 - Review of removal action goals
 - Construction of landfill gas extraction and control system
 - Operation and maintenance of landfill gas extraction and control system
 - Results of gas monitoring
 - Evaluation of system operation
 - Conclusions

Landfill Gas Monitoring Work Plan

Landfill gas monitoring work plan will be developed to include the following tasks:

- Installation of 6 new GMPs along Crisp Avenue
- Monitoring plan to include schedule, data quality objectives, screening criteria, locations to be monitored
- Groundwater level measurements

Removal Action Installation Restoration (IR)-02 Northwest and Central – Parcel E Hunters Point Shipyard

August 26, 2003

BCT Meeting



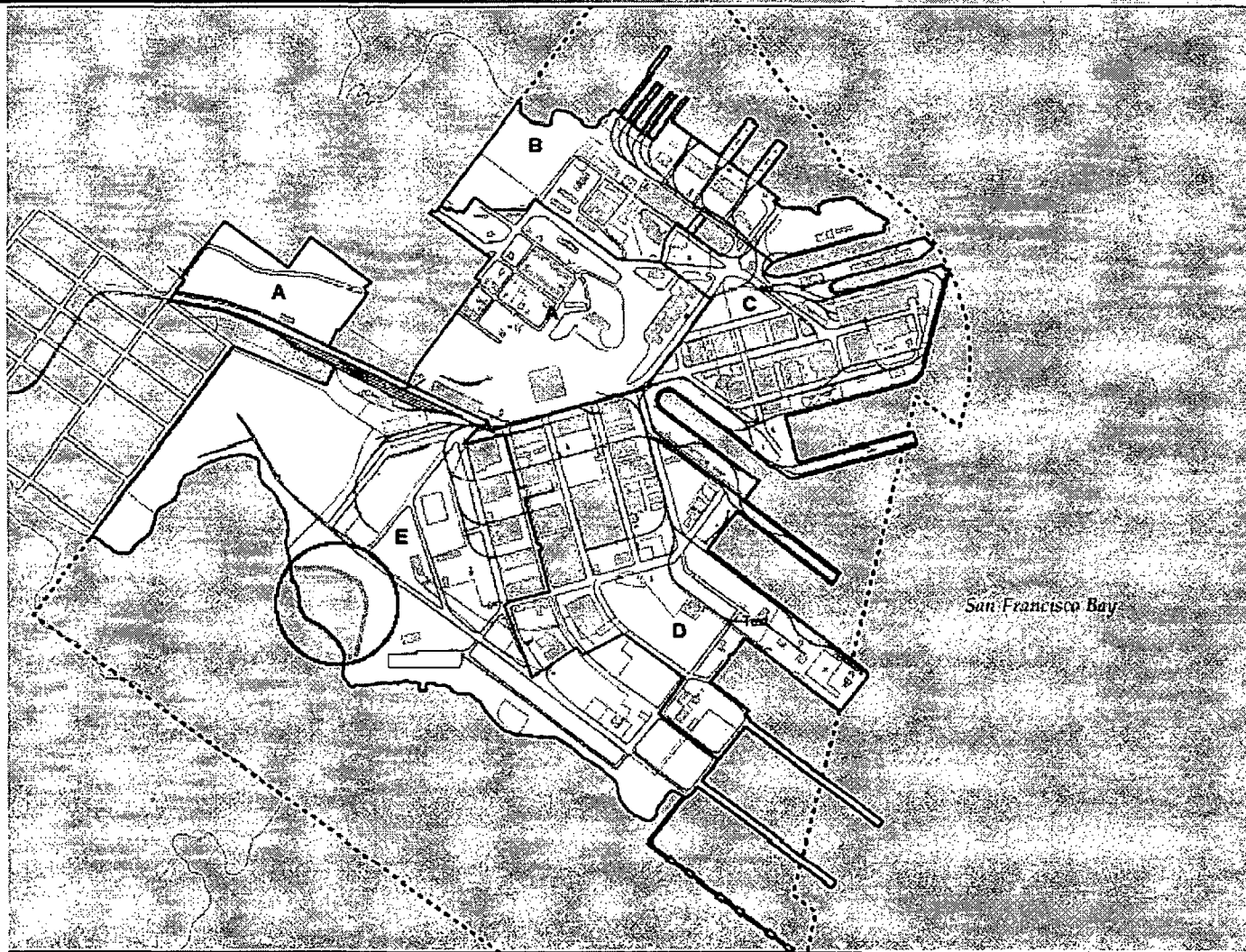
Steve Beers



Parcel E Chronology

Date	Activity
1940 - 1946	Majority of fill operation
1946 - 1970	Minor modifications to the shoreline
1960 - early 1970s (Navy)	Use of IR-02 Northwest and Central as a disposal area for radioluminescent devices
1976 – 1986 (Triple A Machine Shop)	Continued use of IR-02 Northwest and Central as a disposal site (used oils, sandblast grit etc.) – Limited reworking of the soil during disposal activities

IR-02 Northwest and Central Location at HPS



1969 Shoreline





Prior Investigations

1984

Initial Assessment Study

- Record Review/Visual Inspection
- Record review indicated 6,000 pounds of radio-luminescent devices (radium-containing) buried in "fill area" at Parcel E.
- Assumed to be IR-01/21 (former Industrial Landfill)

1988-1996

Remedial Investigation (RI) Field Activities

- 1988 reconnaissance activities included a surface radiation survey
- Survey indicated anomalously high gamma readings at IR-02 Northwest
- Identified need for further radiological investigations



Prior Investigations, continued...

Follow-on Radiological Investigations

1991 Phase I Radiological Investigation

- Assessed the nature and *surficial* extent of radioluminescent devices
- Included comprehensive surface gamma walkover survey, radon flux testing, and surface soil analysis
- Surface survey indicated over 300 point sources in an area measuring 600 ft. x 600 ft. (extended approximately 50 feet into IR-02 Central)
- Radon detected only in samples collected directly above point sources
- 13 of 46 soil samples collected contained radium-226 above background levels (no detections in soil samples collected along shoreline area)



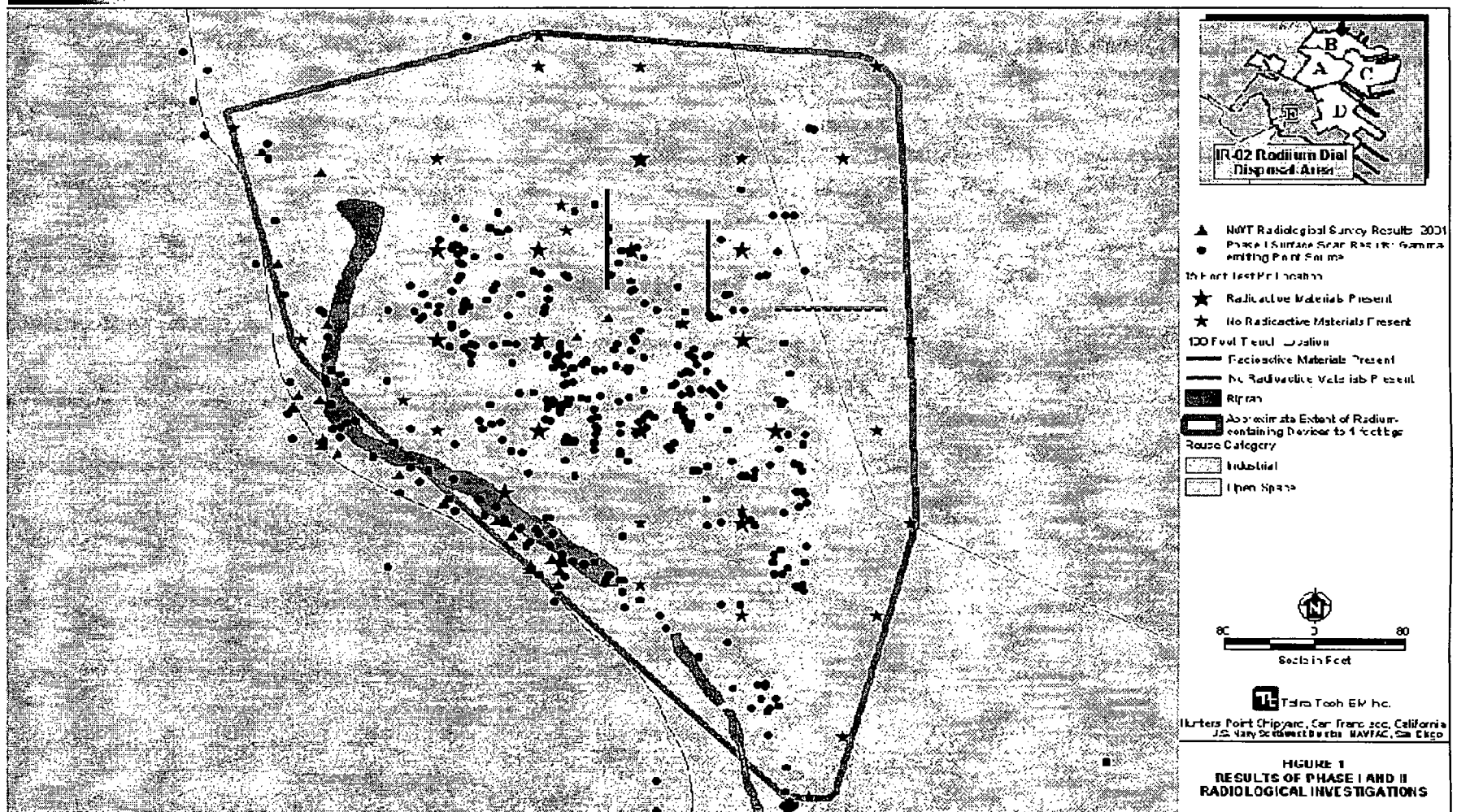
Prior Investigations, continued...

Follow-on Radiological Investigations

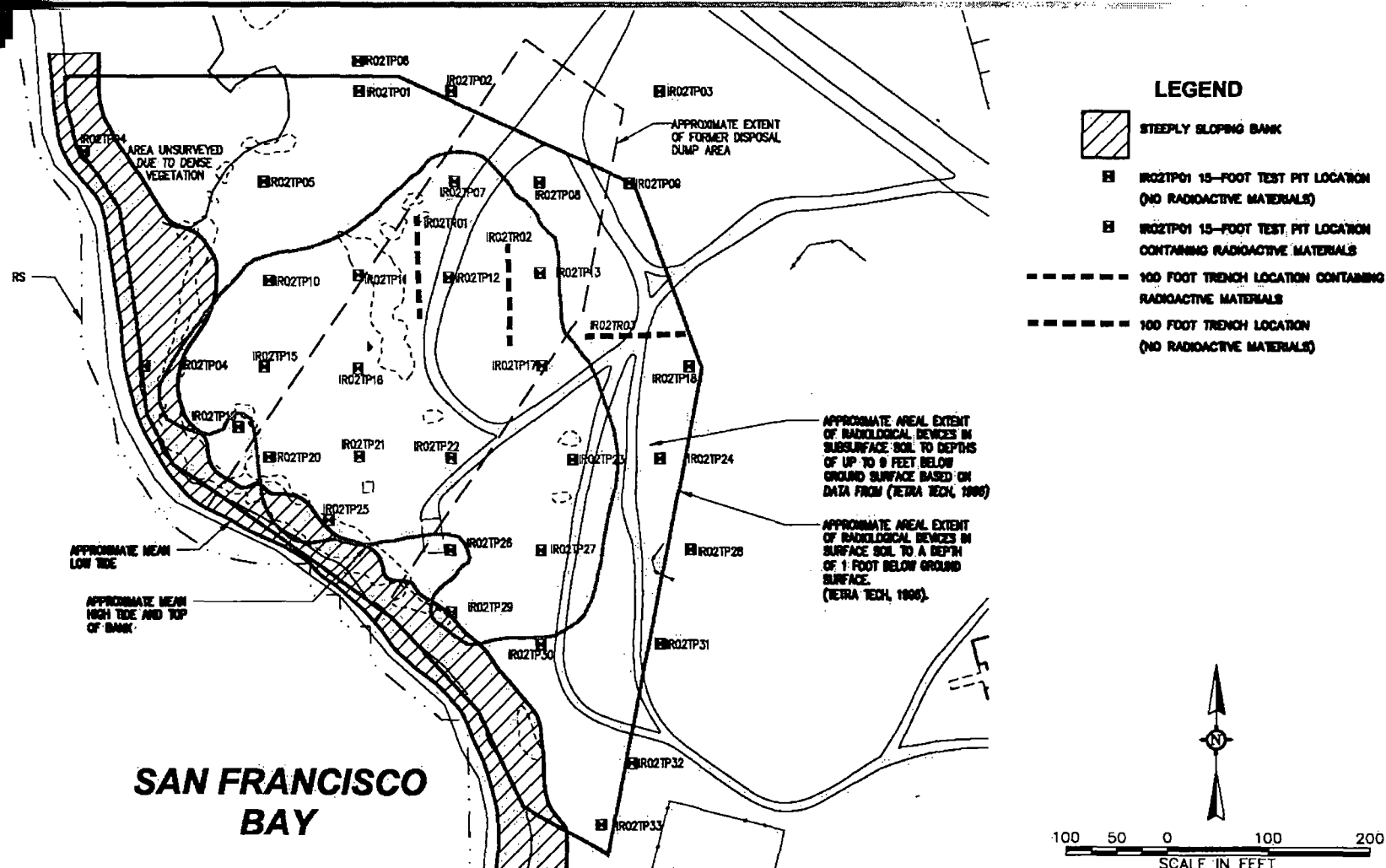
1993 Phase II Radiological Investigation

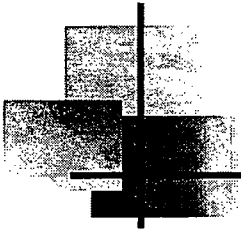
- Assessed the *subsurface* distribution of radioluminescent devices at the disposal area in IR-02
- Twenty-seven test pits (15 ft. deep) and three trenches (100 ft. X 8 ft. X 2 ft.) excavated at the disposal area
- 111 anomalously high gamma readings detected during excavation activities
- Subsurface distribution of devices confined to an area measuring 450 ft. x 400 ft.
- 90% of devices in upper 6.5 ft (mixed with industrial debris), none below Bay Mud
- No subsurface anomalies in test pits in the inter-tidal area

Radiological Investigation Results



1993 Subsurface Radiological Investigations





Why a Removal Action?

The low-level radiological materials are currently covered with a protective soil layer and the environment and public are safe.

The Removal Action to be taken will eliminate any future potential risks due to:

- Migration and release of radiological materials due to their presence near the surface
- Migration and release of radiological materials by wind, erosion and runoff (proximity to SF Bay)



Action Memo (AM)

Basewide Radiological Action Removal Action,
Action Memorandum (AM), Final, November 19, 2001

"...areas throughout the base that may contain localized radiological contamination in soils, debris/slag and buildings..."

"The proposed removal actions...will...eliminate identified pathways of exposure to hazardous substances for surrounding populations and nearby ecosystems..."

➡ IR-02 Northwest and Central cited as examples of probable areas to address



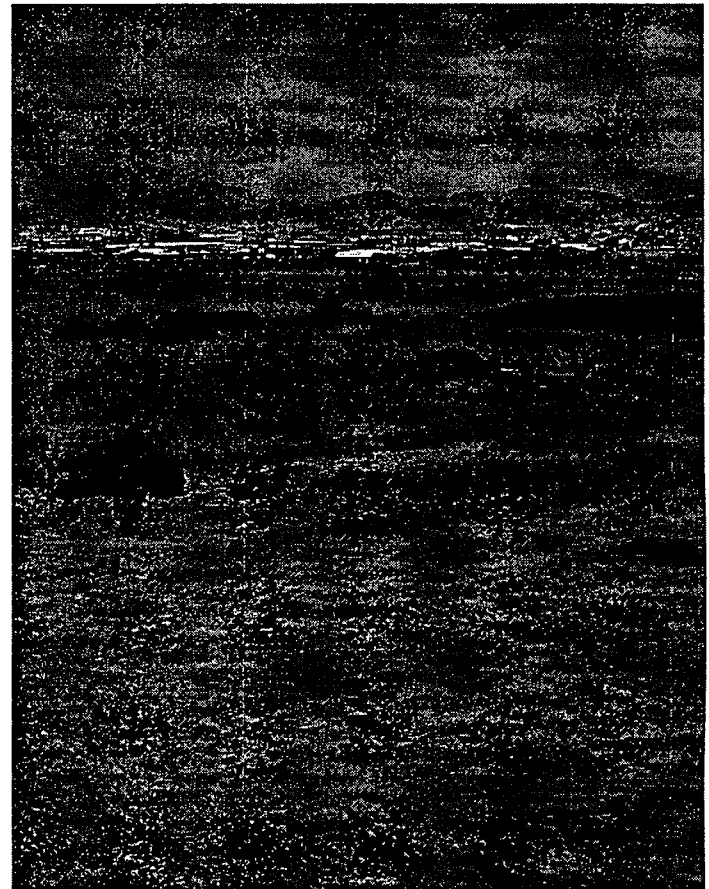
Scope of Work

General Action:

Screen for and physically remove, transport and dispose of radioluminescent devices and affected soil.

Work elements:


- 1 – Work Plan development
- 2 – Removal Action implementation
- 3 – Final Status Survey (MARSSIM)
- 4 – Site Closeout



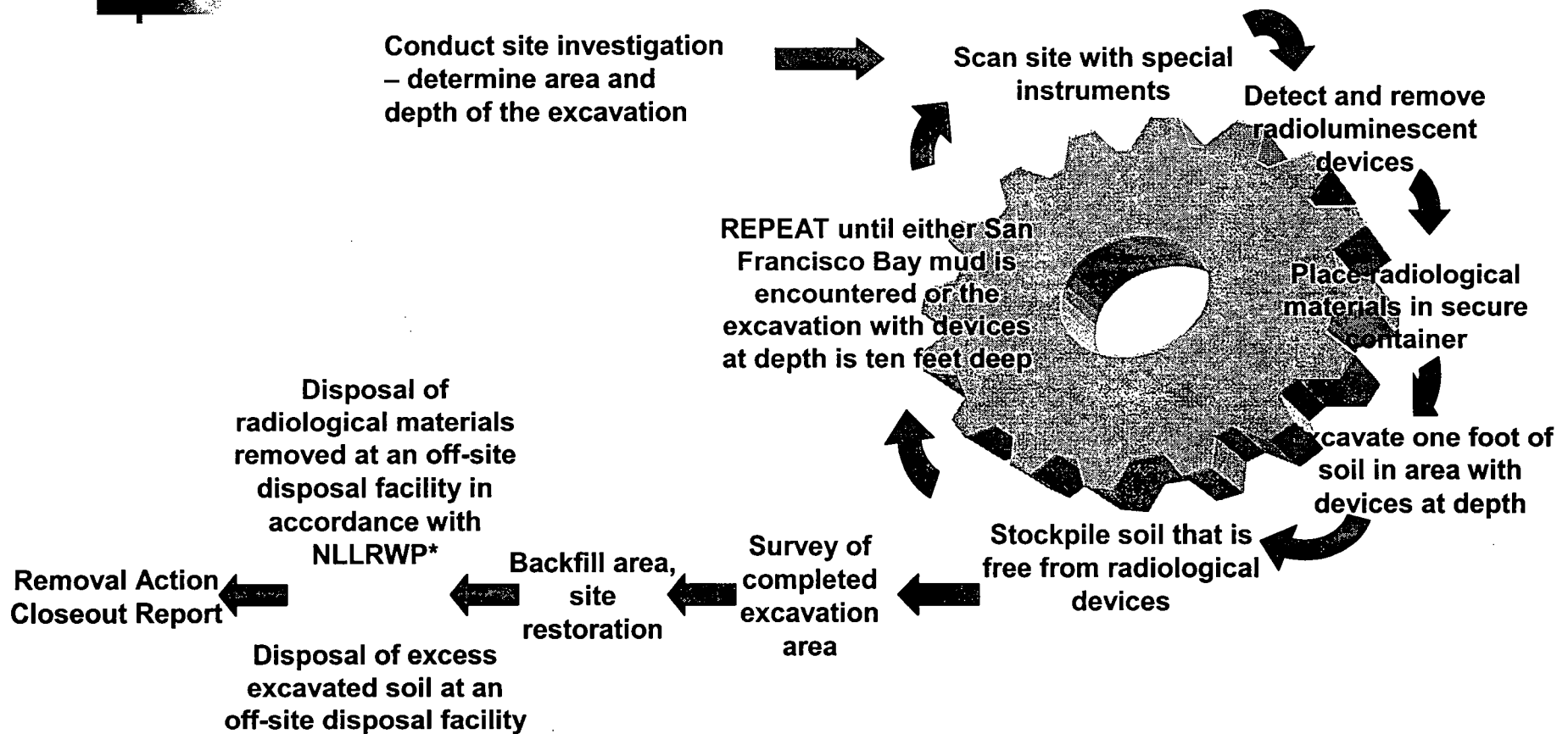


Proposed Removal Action

Preliminary Work Plan Includes:

- Pre-removal subsurface characterization
 - In-situ radiological screening (surface scan)
 - Point source removal to one foot below ground surface
 - Ex-situ screening and stockpiling of excavated soil
- 
- Repeat where devices are at depth; In-situ screening, one foot lift, ex-situ screening & stockpiling until excavation is 10 feet deep (or SF Bay mud)
 - Sort and separate radiological materials for appropriate disposal
 - Disposal of radiological materials at an off-site disposal facility (NLLRWP)
 - Disposal of excess excavated soil at an off-site disposal facility
 - Backfill with excavated material & top 3' with imported clean soil
 - Site restoration

Proposed Cleanup Process



*Naval Low-Level Radioactive Waste Program



Cleanup Goals

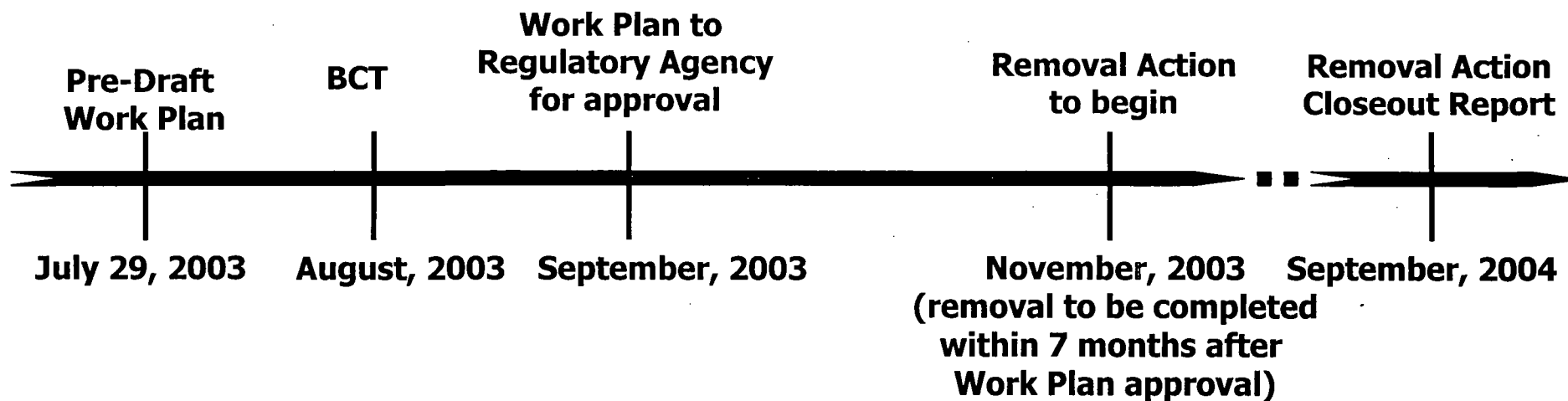
- Ra-226 = 2 picoCuries per gram (pCi/g)¹
- If additional radiological materials are present, the specific cleanup goals for Phase V Radiological Investigation will be applied

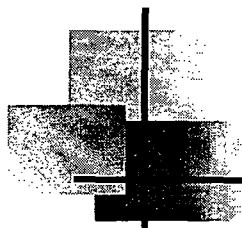
Footnote:

1) Preliminary agreement between DON and the EPA



Removal Action Timeline





END



Hunters Point Shipyard Removal Action for Parcel D Soil and Soil Stockpiles

Hunters Point Shipyard BCT Meeting
26 August 2003

1

Purpose of the TCRA

- **Reduce contamination from releases at Parcel D**
 - Address sites with ELCR > 10-6 or HI > 1
 - Focus on COCs not associated with ambient metals
- **Eliminate potential risk from soil stockpiles in Parcels B through E**
 - Characterize waste and coordinate disposal

2

Parcel D Soil Site Selection

- Updated the HHRA from the Parcel D FS for organics, lead and chromium VI
- Evaluated sites with ELCR >10-6 or HI >1
- Eliminated sites inside buildings with significant foundations
- Included the leaking transformer site in Building 306
- Investigation of IR-09 site where groundwater exceeds aquatic criteria

3

TCRA Sites North

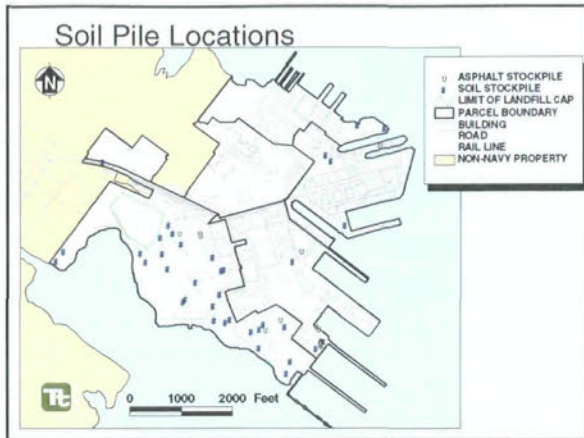


TCRA Sites South



Soil and Debris Piles

- Soil stockpiles are located throughout HPS
- Soil and asphalt piles will be characterized for disposal and removed
- Soil sampling (beneath pile) planned if stockpile samples have concentrations above TCRA goals and barrier to soil is absent (e.g., pavement)



Action Memo

- Employs risk-based cleanup goals (HPS PRGs)
- Eighteen sites selected from Parcel D based on COPC
 - PAHs are the major risk driver in Parcel D soil
- Soil stockpiles
 - Chemical analysis of soil stockpiles is needed.

8

TCRA Workplan

- No pre-excavation samples
 - Except at IR-09 where investigating potential Cr VI soil source to groundwater
- Excavations typically are 16' by 16' minimum, or to maximum practical extent
- Excavations completed to 10 ft maximum, or to maximum practical extent
- Stockpile characterization for disposal
- Excavations will be backfilled and compacted to grade.

9

Excavation Sampling

- Approach based on C and D TCRA of 2000
- Sidewall samples will be collected post-excavation
- Sidewalls will be sampled at 17 ft intervals.
- Potential for layering will be examined, and samples collected at the depth of contaminated layers, as appropriate
- Bottom samples will be collected as 5-pt composites for every 500 ft area

10

Schedule for TCRA

- Action Memo and Workplan: Oct 15, 2003
- Public and Agency Review Period: Oct 15-Nov 15
- TCRA implementation: Nov 15, 2003- Feb 15, 2004

11

Soil Pile Locations

